



Harperrig local nature reserve management plan



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Harperrig Management Group is made up of representatives from West Lothian Council, Pentland Hills Regional Park, City of Edinburgh Council, Forestry Commission, Scottish Natural Heritage, Scottish Water and Harperrig Fisheries, as well as local residents and land owners and managers, such as Dalmahoy Estate, Cairns Farm and Baad Park. The management group meets at least annually with ad-hoc meetings as required.

HARPERRIG RESERVOIR MANAGEMENT PLAN

Introduction

This management plan is written in conjunction with the *Pentland Hills Regional Park Plan (2007-2017)*, *West Lothian Local Plan Finalised (as modified 2008)* and the *West Lothian Local Biodiversity Action Plan (LBAP) 2005-2009*.

On agreeing a draft plan, in conjunction with Harperrig Management Group, it is proposed that West Lothian Council will proceed to designate Harperrig Reservoir as a Local Nature Reserve (LNR).

Harperrig Reservoir LNR sits within the boundary of the Pentland Hills Regional Park the aims of which, as set out in its designation order, are:

- to retain the essential character of the hills as a place for the peaceful enjoyment of the countryside;
- caring for the hills so that the landscape and the habitat is protected and enhanced;
- within this caring framework to encourage responsible public enjoyment of the hills; and
- co-ordination of these aims so that they can co-exist with farming and other land uses within the park.

Site description

Harperrig Reservoir lies in the centre of a shallow basin on the north west side of the Pentland Hills (see map at Appendix 1) some 12 miles from Edinburgh. It is surrounded by the hill farms of Dalmahoy, Baad Park, Cairns and Colzium and the woodlands of Forestry Commission (Scotland).

The 96 hectare reservoir is owned by the City of Edinburgh Council and managed by their City Development department as part of the Water of Leith Flood Prevention Scheme. The reservoir changed ownership in March 2007 from Scottish Water to City of Edinburgh Council, as part of the Water of Leith Flood Prevention Scheme. This change of ownership means that the Harperrig Management Group now has more influence and active involvement in the future management of the area.

Intensively grazed neutral grassland dominates the vegetation structure around the reservoir, with large areas of marshy grassland. However, immediately to the west of the reservoir is a five hectare wildlife refuge which is roughly triangular in shape and has a south-west to north-east orientation and is largely separated from the main body of Harperrig Reservoir by a stone built causeway. The refuge is mostly flat with steep banking to the south-east of the Water of Leith and has a range of habitats including marsh and swamp. A Forestry Commission plantation is situated to the area south-west of the river.

When water levels are low inundation vegetation communities quickly establish within the refuge. A shelterbelt of mature Scots Pine can be found at the northern corner of the refuge, bordered by a recent plantation of mixed mature woodland.



Statement of significance

One of the most significant aspects of this part of the Pentland Hills is its proximity to the urban settlements of West Lothian and particularly Livingston. Harperrig Reservoir and surrounds provide a wild, remote and relatively undeveloped area that can be accessed by a variety of user groups.

In particular, Harperrig Reservoir is an important habitat as it supports a variety of plants, such as Floating Sweet Grass (*Glyceria fluitans*) and Bog Pondweed (*Potamogeton polygonifolius*) with rushes and sedges in the drier areas and animals, such as otters, badgers and wetland birds. With the ownership of the reservoir by City of Edinburgh Council, this area is able to be sympathetically managed to provide the best habitats to a diverse group of species. This management will need to recognise that within this area are also a working farm and a managed fishery. The recreational and educational usage of this area will also have to be taken into account when planning the management of the site.

Key features

1. Natural heritage

The main areas covered by this Management Plan (see map at Appendix 2) are Harperrig Reservoir and surrounding margins and also the wildlife refuge.

Reservoir The significance of this area is the use of the reservoir margins for over-wintering wildfowl and wading birds. Gull Island (annotated on map) has been re-instated and it provides a predator free nesting area for gulls and ducks. This freshwater habitat is important as there are few suitable wetland habitats of this type in the Lothians, with this being one of only 4 sites to record the Stonefly species *Leuctra nigra*.

Wildlife Refuge Where the Water of Leith enters the reservoir is an area of marshy grassland vegetation. Within this area otters (*lutra lutra*) have been recorded and in 1997 an artificial otter holt was built. As a *UK Biodiversity Action Plan Priority Species*, Edinburgh Council LBAP and a *Red Data Listed* protected species, it is important to maintain a suitable habitat for otters. An appropriate management regime, beneficial to supporting otters, will need to be considered and agreed.

General A *Phase 1 Habitat Survey* was undertaken by Scottish Wildlife Trust (SWT) in September 1991 and a species survey was undertaken in 2006 by JDC Ecology to inform the Flood Prevention Works Programme. A further *Phase 1 Habitat Survey* and species survey is planned for 2009, funding being provided by Scottish Natural Heritage (SNH). This will be vital in providing up to date information about what species are present and what management regimes may need to be adopted.



2. Landscape

The reservoir lies within an area that is designated as an Area of Great Landscape Value in the Calders Area Local Plan (adopted in 1994) and the West Lothian Local Plan (adopted in 2009) and is overlooked by the public road from Edinburgh to Lanark (A70). Although outwith the boundaries of this management plan the vista to the south of the reservoir across the moorland to the steep slopes of East and West Cairn Hills and the Cauldstane Slap provide a very dramatic backdrop and character setting for Harperrig Reservoir LNR. This landscape encapsulates the essence of the Pentland Hills landscape and which the aims of the Regional Park seek to maintain.

3. **Social and economic context**

Agricultural The area of the wildlife refuge and the fields bounding the reservoir are primarily used for sheep and cattle grazing. The owners of Cairns Farm (Hamilton) are part of the Pentland Produce scheme and also run their farm shop. The close working relationship with local farmers is crucial in planning and managing not only this area but the Regional Park as a whole.

Community use The Harperrig Management Group has been set up for a number of years and is made up of representatives from the Pentland Hills Regional Park, West Lothian Council, City of Edinburgh Council, Scottish Natural Heritage, local landowners, farmers, anglers and members of the local community. It is vital that the local community continue with their interest in this area and take ownership of this management plan to ensure its successful implementation and to maintain LNR status in the future.

The closest communities to this site are Kirknewton, East Calder, South Livingston and Balerno.

Fishing There is a managed fishery on the reservoir managed by Harperrig Fisheries. It is hoped now that the advance works for the Flood Prevention Scheme are in place that a more stable water level management regime will be maintained. This will allow a sustainable fishery to develop alongside the other aims of this plan.

Shooting The shooting rights to the reservoir are owned by the City of Edinburgh Council, Lord Morton and Graham Hamilton. Cairns Farm Syndicate exercise the shooting rights that are held by Lord Morton and Graham Hamilton.



4. **Recreation and access**

The *Pentland Hills Visitor Survey 2005-2006*, indicated that the estimated number of visitors to the wider area surrounding Harperrig Reservoir was 23,200. Along the Cairns Castle path there were 6,000 out of a total of 580,000 visitors to the regional park as a whole. Although this is a small percentage (just over 1%), it is also one of the main attractions of this area, making it one of the quieter and wilder areas of the Pentland Hills Regional Park. With the guidelines laid out in the *Scottish Outdoor Access Code (2004)* it is important to promote responsible access to this area without detracting from the elements that give it its individual character. At present no paths in this area are included in the *West Lothian Draft Core Path Plan (March 2008)*.

The reservoir has historically been used for sailing and identified as having potential for water based recreation. Also, access rights for water based activities such as sailing, canoeing and windsurfing apply.

5. Cultural heritage

Within the local surrounding area there are a number of significant features. There are Scheduled Ancient Monuments at Cairns Castle, which is an example of an early 15th Century rectangular towerhouse, and also the cairns on East Cairn and West Cairn Hills are Bronze Age Cairns. Causewayend is a Grade B Listed Building and there are a number of sites listed in the *Royal Commission Inventory*, such as old quarries, sheepfolds and farm buildings.

Vision statement

Our vision is of West Lothian Council and the Pentland Hills Regional Park working closely with the local community to manage Harperrig Reservoir Local Nature Reserve for the benefit of the local community and visitors, and in order to see a greater diversity of plants and animals within this wild and quiet landscape, and to support responsible public enjoyment of the site.

Statement of intent

It is proposed to work with the local community to ensure that they benefit from local natural resources and to maintain and enhance the landscapes, habitats and species within and surrounding the Harperrig Reservoir Local Nature Reserve with a mixture of habitat and species enhancement measures including allowing natural regeneration of trees and shrubs and also some planting. Additionally public access will be improved with paths and interpretation around the area, as well as encouraging the LNR to be used as an educational resource for local schools. Water based recreation will not be actively promoted, but people exercising their right of responsible access under, Part I Land Reform (Scotland) Act 2003, will be encouraged to do so without disturbing wildlife or unreasonably interfering with fishing and other local land management operations.

Conclusion

This management plan for Harperrig Reservoir brings together various aspects of the area and it is proposed to promote it as a Local Nature Reserve. This process encourages involvement with land managers, the local community, Pentland Hills Regional Park, associated councils and agencies to determine the future of such sites, their management needs and the resolution of conflict and the creation of a working relationship.

The draft management plan sets out the significance of the area for flora and fauna and highlights the key features related to natural heritage, landscape, social and economic factors and cultural heritage, as well as recreation and access. A vision statement is proposed, along with aims and objectives for the reservoir and the surrounding area.

A work programme for the period between 2009-2014 is included.

The draft management plan has reached this stage with the support and involvement of the local community and land managers.



April 2009 (Version 9)

Aims and objectives

Aim 1

To improve the amount of woodland cover around the reservoir on land owned by City of Edinburgh Council (CEC).

- Objective 1 As part of the Water of Leith Flood Prevention Works it has been agreed that a stock proof fence will be installed encompassing the whole reservoir. (This is subject to suitable arrangements being made with Scottish Water for drinking water for stock and does not include the Wildlife Refuge at Cairns).
- Objective 2 It is anticipated that following the installation of the stock proof fencing that some natural regeneration will occur. However, CEC will intervene if this has not happened by 2013.
- Objective 3 To supplement the natural regeneration, a programme of planting will be undertaken of trees and shrubs.
- Objective 4 To ensure that additional woodland cover fits well with the local landscape character.



Aim 2

To improve the amount of woodland cover on areas out with the reservoir on privately owned land.

- Objective 1 It is proposed to consult with local land owners to decide who would be willing to have extra tree cover on their land.
- Objective 2 Once identified the areas would need to be fenced with stock proof fencing.
- Objective 3 A programme of planting will be undertaken of trees and shrubs.
- Objective 4 To ensure that additional woodland cover fits well with the local landscape character.

Aim 3

To protect and enhance habitats and species within the LNR.

- Objective 1 To carry out an assessment to identify and locate important and sensitive habitats and species and make recommendations for their protection and enhancement, as well as the potential for habitat creation e.g. a new pond, particularly within the wildlife refuge and with regard to otters, bearing in mind the interests of farmers and anglers.
- Objective 2 To implement habitat and species protection and enhancement measures agreed by the Harperrig Management Group.

Aim 4

To improve public access and interpretation around the reservoir and encourage its use as an educational resource.

- Objective 1 To carry out an assessment to identify suitable routes for new paths, bearing in mind the interests of farmers and anglers.
- Objective 2 To construct the new paths agreed by the Harperrig Management Group.
- Objective 3 To carry out an assessment to identify suitable signage and interpretation for the LNR.
- Objective 4 To install signage and interpretation agreed by the Harperrig Management Group.
- Objective 5 The local ranger service to arrange school visits to the LNR to support the Curriculum for Excellence.
- Objective 6 To assess and construct extra car parking at the west side of the reservoir.
- Objective 7 To encourage those exercising access rights under Part I Land Reform (Scotland) Act 2003, to do so responsibly with reference to the Scottish Outdoor Access Code.

Aim 5

To provide suitable habitats for breeding birds and to allow increased usage by over-wintering birds.

- Objective 1 As part of the Water of Leith Flood Prevention Works the area surrounding Gull Island was dredged resulting in the re-creation of this habitat, that will be monitored for bird usage.
- Objective 2 The City of Edinburgh, City Development department will control the reservoir water level and attempt to maintain a stable level. This will be done within the restrictions of the Flood Prevention Programme, the need to maintain compensation flow in the Water of Leith as well as the need to maintain the reservoir dam and draw-off facilities.



Aim 6

To review and measure the success of the Harperrig Reservoir LNR Management Plan in consultation with the local community within 5 years from adoption of the plan.

- Objective 1 To consult with the local community (i.e. the Harperrig Management Group and the Community Council) to evaluate the achievement of the aims and objectives of the Harperrig Reservoir LNR Management Plan.
- Objective 2 To review the Harperrig Reservoir LNR Management Plan in year five and revisit its aims and objectives.

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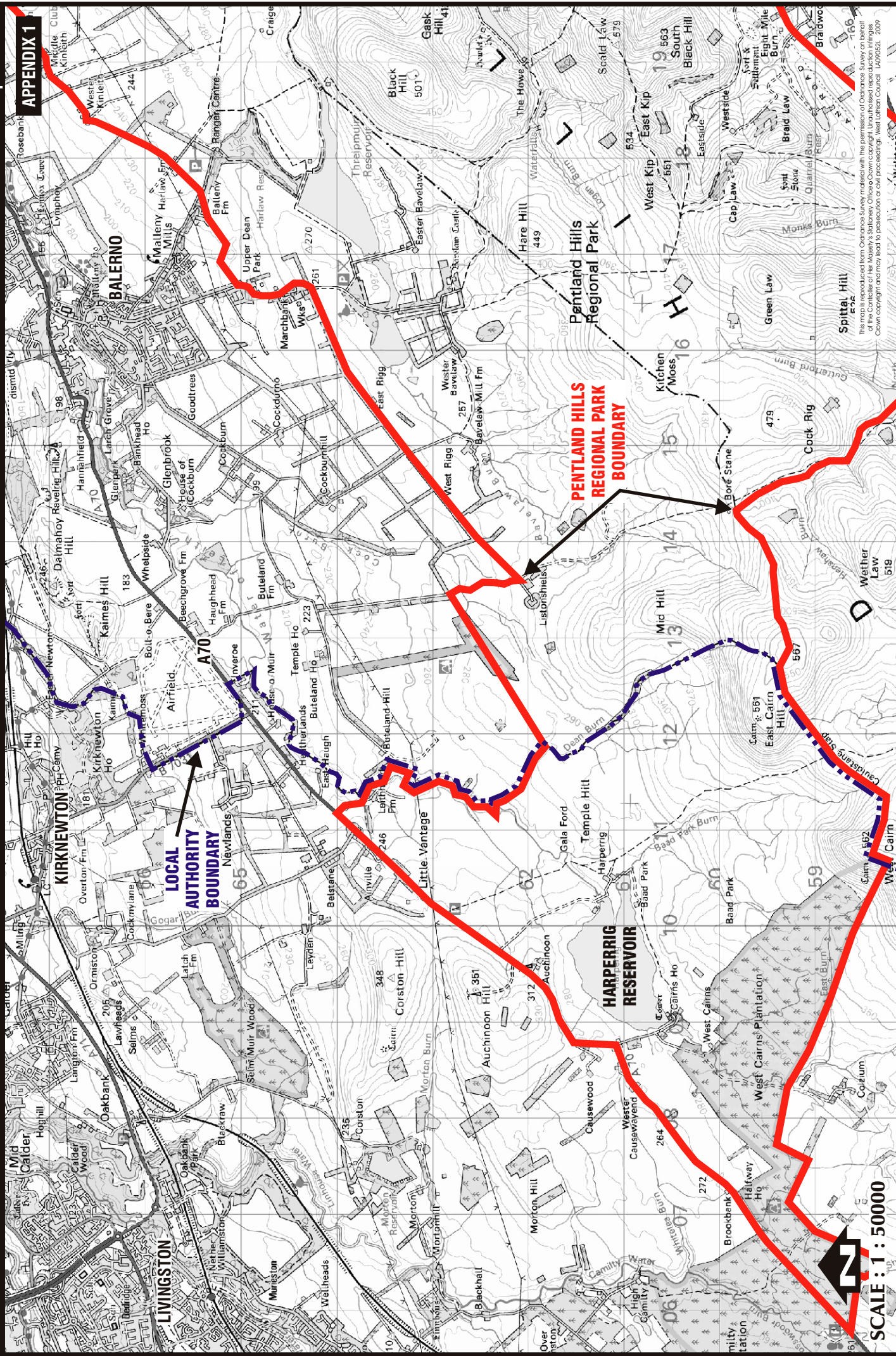
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HARPERRIG RESERVOIR LOCAL NATURE RESERVE : GENERAL LOCATION

APPENDIX 1

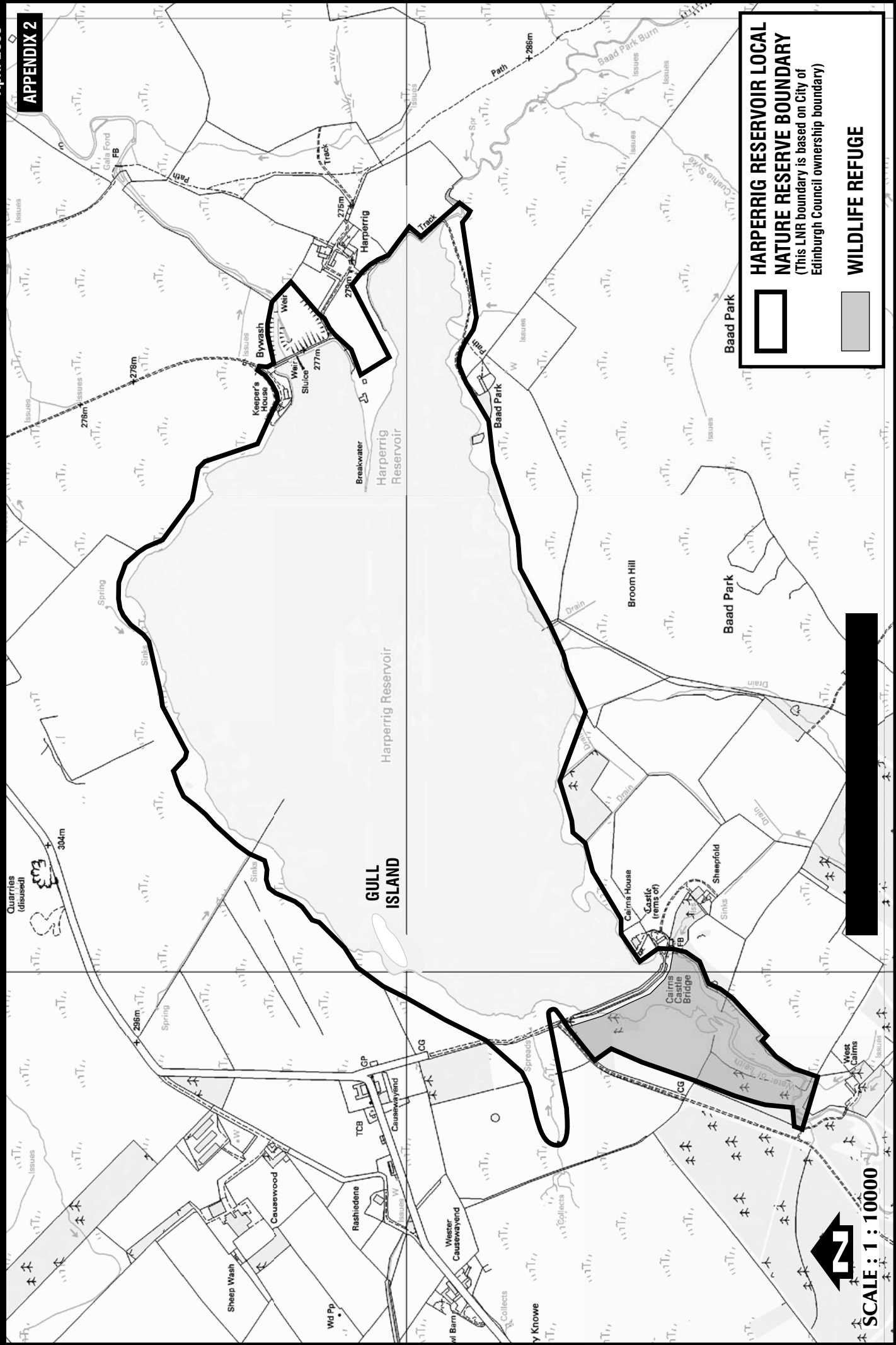


SCALE : 1 : 50000

HARRERRIG RESERVOIR LOCAL NATURE RESERVE BOUNDARY

FINALISED
April 2009

APPENDIX 2



Aim 1: To improve the amount of woodland cover around the reservoir on land owned by City of Edinburgh Council

Objective	Prescription	Lead role	Funding required	09/10	10/11	11/12	12/13	13/14	Resources
1.1 As part of the Flood Prevention Works it has been agreed that a stock proof fence will be installed encompassing the whole reservoir though not including the wildlife refuge.	1.1.1 Work ongoing on ensuring dykes/fences are stock proof.	CEC	No	■					CEC
	1.1.2 Arrangements to be made for drinking water for stock.	CEC/GH	Possible	■					CEC/SW
1.2 It is anticipated that following the installation of the stock proof fencing that some natural regeneration will occur. However CEC will intervene if this regeneration has not happened by 2013.	1.2.1 Baseline survey to be undertaken.	PHRP	Yes – part £2500 (SNH)		■				SNH/PHRP/LWIC/SWT
	1.2.2 Annual walk round survey to be undertaken.	PHRP	No		■	■	■	■	PHRP
	1.2.3 Fixed point photos to be taken annually.	PHRP	No	■	■	■	■	■	PHRP
1.3 To supplement the natural regeneration a programme of planting will be undertaken of trees and shrub.	1.3.1 Areas for planting to be identified.	Man Grp	No	■	■				n/a
	1.3.2 Applications for funding to be submitted.	Man Grp	No	■					n/a
	1.3.3 Planting to be carried out.	CSFT	Yes		■	■	■	■	Grants - CSFT/ WT/ FCS/SRDP/ LEADER
1.4 To ensure that additional woodland cover fits well with the local landscape character.	1.4.1 Areas of planting to be sensitive to the landscape bearing in mind the need for stock shelter.	SNH/ Man Grp	No		■				n/a

Aim 2: To improve the amount of woodland cover on areas outwith the reservoir on privately owned land.

Objective	Prescription	Lead role	Funding required	09/10	10/11	11/12	12/13	13/14	Resources
2.1 It is proposed to consult with local land owners to decide who would be willing to have extra tree cover on their land.	2.1.1 Discuss with local land owners and mark suitable areas on map.	Man Grp	No	■					n/a
	2.1.2 Include areas in baseline survey (see 1.2.1 above).	PHRP	Yes – part £2500 (SNH)		■				SNH/PHRP
2.2 Once identified the areas would need to be fenced with stock proof fencing.	2.2.1 Arrange for fencing.	CSFT	Yes		■				Grants - CSFT/ WT/ FES/SRDP/ LEADER
	2.2.2 Supervise fencing contractors.	CSFT / PHRP	No		■				n/a
2.3 A programme of planting will be undertaken of trees and shrubs.	2.3.1 Identify suitable tree species.	SNH / PHRP / CSFT	No	■					n/a
	2.3.2 Planting to be carried out.	CSFT	Yes		■	■	■	■	Grants - CSFT/ WT/ FCS/SRDP/ LEADER

Objective	Prescription	Lead role	Funding required	09/10	10/11	11/12	12/13	13/14	Resources
2.4 To ensure that additional woodland cover fits well with the local landscape character.	2.4.1 Areas of planting to be sensitive to the landscape bearing in mind the need for stock shelter.	SNH/ Man Grp	No		■				n/a

Aim 3: To protect and enhance habitats and species within the LNR.

Objective	Prescription	Lead role	Funding required	09/10	10/11	11/12	12/13	13/14	Resources
3.1 To carry out an assessment to identify and locate important and sensitive habitats and species and make recommendations for their protection and enhancement, as well as the potential for habitat creation e.g. a new pond, particularly within the wildlife refuge and with regard to otters, bearing in mind the interests of all user groups.	3.1.1 Consultant to carry out assessment.	PHRP/SNH/ Consultant	Yes part £2500 (SNH)		■				SNH/PHRP
3.2 To implement habitat and species protection, enhancement and creation measures agreed by the Harperrig Management Group.	3.2.1 Agree and implement measures.	Man Grp/ PHRP/SNH/ Contractor	Yes/SRDP/ LEADER		■	■	■	■	Grants

Aim 4: To improve public access and interpretation around the reservoir and encourage its use as an educational resource.

Objective	Prescription	Lead role	Funding required	09/10	10/11	11/12	12/13	13/14	Resources
4.1 To carry out an assessment to identify suitable routes for new paths, bearing in mind the interests of all user groups.	4.1.1 Carry out the assessment.	SNH/ Consultants	Yes – part £2500 (SNH)		■				SNH
	4.1.2 Management Group to agree assessment recommendations.	Man Grp	No		■				n/a
4.2 To construct the new paths agreed by the Harperrig Management Group.	4.2.1 Construct new paths.	Contractor/ PHRP/Land owners	Yes - SRDP		■	■	■		Grants - SRDP / SNH / LEADER
	4.2.2 Maintain new paths.	Contractor/ WLC/ PHRP/ Land owners	Yes - SRDP			■	■	■	PHRP

Objective	Prescription	Lead role	Funding required	09/10	10/11	11/12	12/13	13/14	Resources
4.3 To carry out an assessment to identify suitable signage and interpretation for the LNR.	4.3.1 Carry out assessment.	SNH/ PHRP/ CEC / Contractor	Yes part £2500 (SNH)		■				SNH
	4.3.2 Management Group to agree assessment recommendations.	Man Grp	No		■				n/a
4.4 To install signage and interpretation agreed by the Harperrig Management Group.	4.4.1 Carry out installation.	Contractor/ Land owners	Yes - SRDP / CEC		■				Grants - SRDP / SNH / LEADER
	4.4.2 Check condition of signage and interpretation.	PHRP	No			■	■	■	n/a
4.5 The local Ranger Service to arrange school visits to the LNR to support the Curriculum for Excellence.	4.5.1 Ranger Service to carry out school visits.	PHRP	No		■	■	■	■	n/a
4.6 To assess and construct extra car parking at the West side of the reservoir.	4.6.1 Assess extra car parking space.	Man Grp/ WLC	No	■					n/a
	4.6.2 Construct car park.	Contractor/ Land owner	Yes - SRDP		■				Grants
4.7 To encourage visitors to do so responsibly under Scottish Outdoor Access Code.	4.7.1 Ranger Service to patrol and monitor / advise visitors	PHRP	No	■	■	■	■	■	n/a
	4.7.2 Incorporate SOAC info on site signage	PHRP	No	■	■	■	■	■	n/a
	4.7.3 Monitor use for water based recreation and review visitor management arrangement as required	PHRP	No	■	■	■	■	■	n/a

Aim 5: To provide suitable habitats for breeding birds and to allow increased usage by over-wintering birds

Objective	Prescription	Lead role	Funding required	09/10	10/11	11/12	12/13	13/14	Resources
5.1 As part of the current Flood Prevention Works the area surrounding Gull Island was dredged resulting in the re-creation of this habitat.	5.1.1 Investigate volunteer bird monitoring programmes.	PHRP	No	■					Local residents / volunteers / BTO
	5.1.2 Update signage around Gull Island.	PHRP	Yes - SRDP		■				CEC
	5.1.3 Man Grp will keep under review the interaction between water users and Gull Island and conservation interests in relation to shooting rights and consider if there is any impact on breeding birds.		No	■	■	■	■	■	PHRP / SNH / Local residents/ BTO
5.2 The City of Edinburgh, City Development Department will control the reservoir water level and attempt to maintain a stable level. This will be done within the restrictions of the Flood Prevention Programme, the need to maintain compensation flow in the Water of Leith as well as the need to maintain the reservoir dam and draw-off facilities.	5.2.1 CEC to report back to Man Grp on water levels.	CEC	No	■	■	■	■	■	n/a
	5.2.2 CEC to seek advice of Man Grp with regard to any significant planned change to water levels (within operational limits).	CEC	No	■	■	■	■	■	n/a

Aim 6: To review and measure the success of the Harperrig Reservoir LNR Management Plan in consultation with the local community.

Objective	Prescription	Lead role	Funding required	09/10	10/11	11/12	12/13	13/14	Resources
6.1 To consult with the local community (i.e. the Harperrig Management Group and the Community Council) to evaluate the achievement of the aims and objectives of the Harperrig Reservoir LNR Management Plan.	6.1.1 Consult the local community.	WLC / SNH	No			■	■	■	n/a
6.2 To review the Harperrig Reservoir LNR Management Plan in year 5 and revisit its aims and objectives.	6.2.1 Review aims and objectives.	Man Grp	No					■	n/a



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